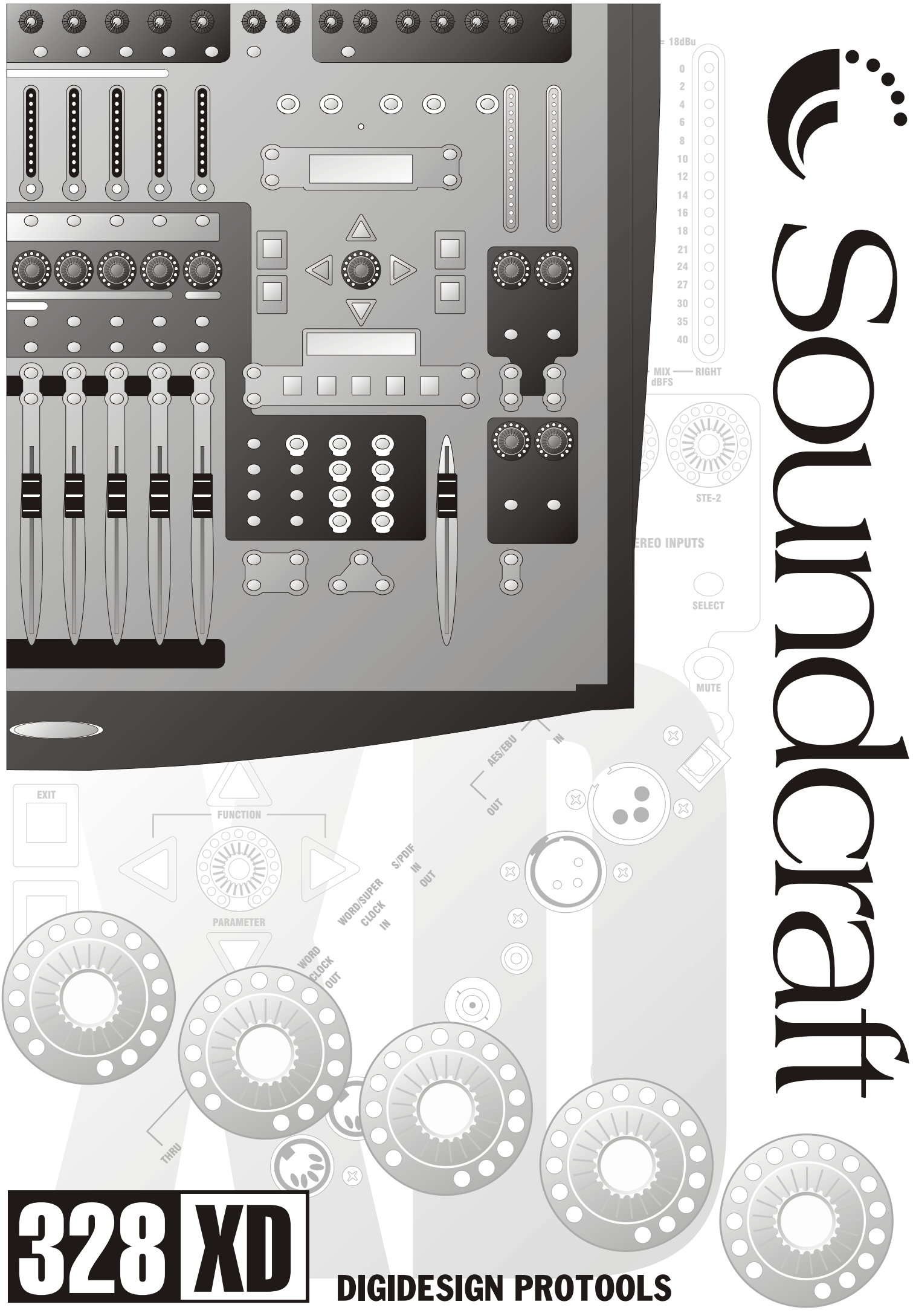

Soundcraft

328 XD

DIGIDESIGN PROTOOLS

328XD AND DIGIDESIGN PRO TOOLS

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INTRODUCTION

This system configuration manual is for interfacing Digidesign's Pro Tools with the 328XD Digital Mixer. The guide assumes that you have a working knowledge of the Macintosh environment and a familiarity with Pro Tools and the 328XD.

The procedure will show the user how to integrate the MIDI CONTROLLER BANK on the 328XD as a limited control surface for the internal mixer within Pro Tools.

The guide will also outline the steps to take to allow automated control of the 328XD from Pro Tools (version 5.0 or later is recommended).

Pro Tools uses ten different preset 'personalities' in its control architecture. This document outlines possibilities using the Peavey PC-1600 controller personality.

The Pro Tools Internal Mixer

Digidesign offers a fully functioning mixing console from within the Pro Tools environment. Pro Tools duplicates many of the functions found on the 328XD, offering the ultimate in flexibility when the two are joined together. However, to understand the power of this system, it is important to separate the two mixing environments in your mind: the Pro Tools internal mixer, and the Soundcraft 328XD mixing console.

The first part of this guide will explain how to allow the 328XD to control the Pro Tools INTERNAL mixer. We will discuss how Pro Tools can control the 328XD in a later section.

In order to integrate the 328XD into the Pro Tools environment, we must utilize an existing Personality Profile that Digidesign provides in its DAE folder, found in the System folder of your Macintosh. Currently six profiles exist– the JL Cooper CS-10, the Penny & Giles DC-16 and MM-16, the Mackie HUI, Digidesign's own Pro Control, and the Peavey PC-1600. We will be relying on the Peavey PC-1600 profile for communication between the 328XD and the Pro Tools internal mixer.

NOTE: Please make sure that the Peavey PC-1600 profile is placed in the Controllers folder inside the DAE folder on your Macintosh before proceeding.

MIDI CONFIGURATION

It is essential that 2 way MIDI communication occurs between the 328XD and Pro Tools.

Using standard MIDI cables, connect the 328XD MIDI Out Port to your MIDI interface's MIDI In Port, and connect the 328's MIDI In Port to the interface's MIDI Out Port.

This 2 way communication configuration will allow full dynamic automation of the 328XD, and it will allow control of the internal mixer within Pro Tools from the 328XD.

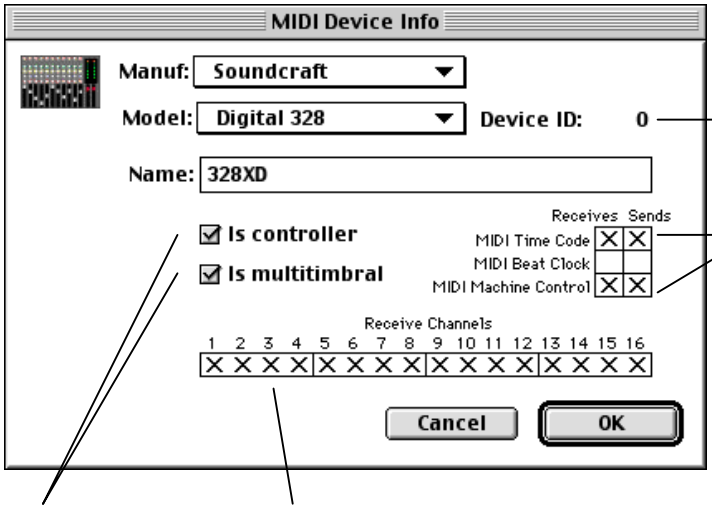
OMS Setup

Before launching Pro Tools, we must configure OMS to account for the 328XD. This guide will refer to OMS version 2.3.8.

Launch the OMS Application.

Under "Studio" select New Device

Configure the new device as described below:



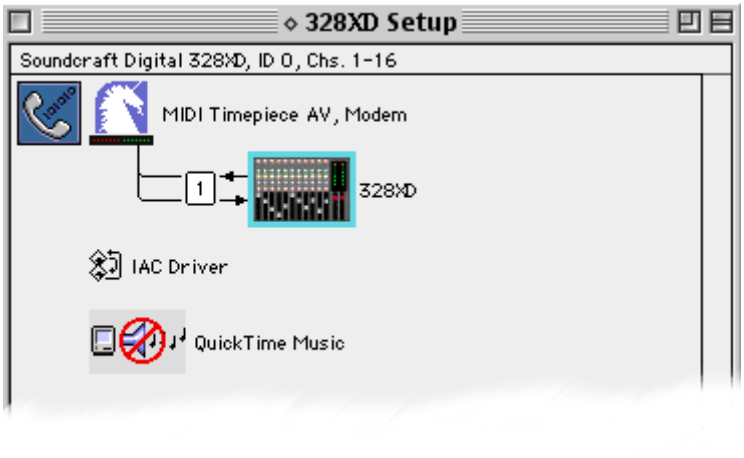
Set the Device ID to 0.

Enable MIDI Timecode (MTC) and MIDI Machine Control (MMC) as indicated.

Check "Is controller" and "Is multitimbral".

Enable all receive channels

Hit OK – the 328XD device should now appear in your OMS Studio Setup as indicated here.

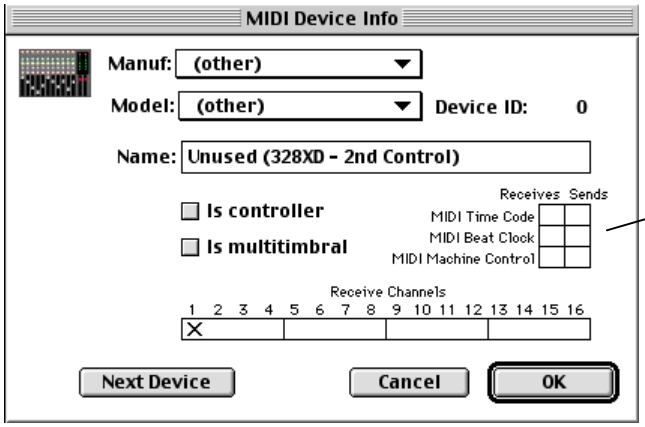


Relating to the control of the internal mixer within Pro Tools, since we are emulating a preset Digidesign controller personality, a second 'phantom' 328XD must be created. This device will not be an actual device – instead it will act to emulate another controller surface, thus gaining access to 16 more controls in Pro Tools.

Configuring the 'Phantom' Device

Select New Device as previously

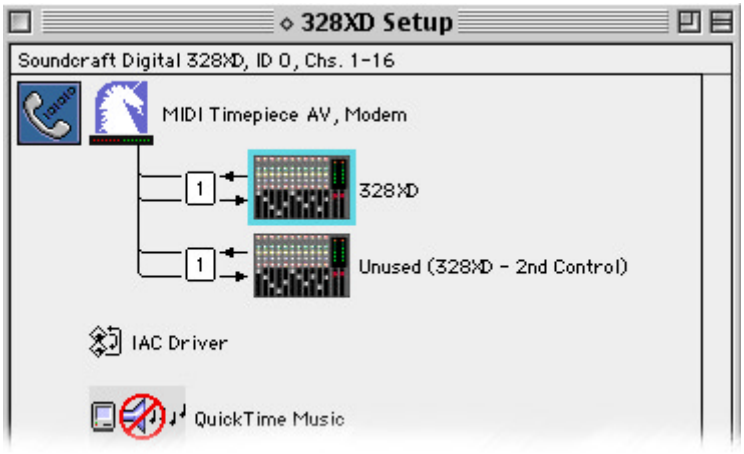
Configure the new device as shown:



Do not check any boxes

Make sure channel 1 is enabled under "Receive Channels".

Hit OK – the OMS Studio setup will show your new device.



The OMS Setup is now complete. Quit OMS and launch Pro Tools to continue setup.

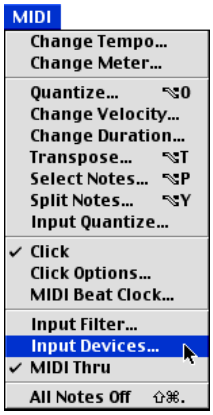
PRO TOOLS CONFIGURATION

Using Pro Tools 5.0 or later, devices must be enabled for input control before they can be used. Pro Tools 4.0 – 4.3.5 users do not need to enable inputs and may move to the next step, **Enabling Peripherals**.

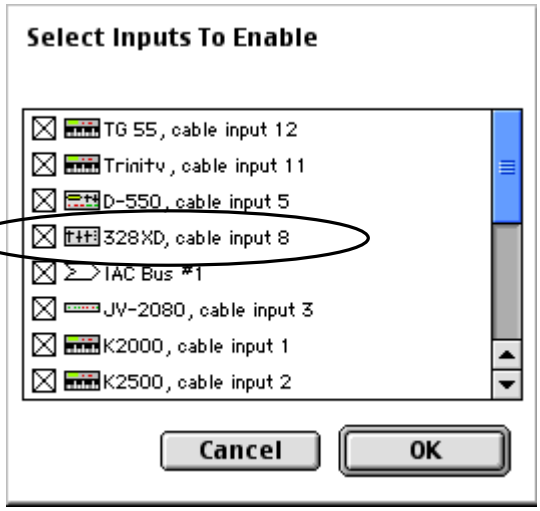
Enabling Inputs for Pro Tools 5.0 or later

Launch Pro Tools and either open an existing file or create a new one. If you choose to create a new file, add a few MIDI tracks to enable the MIDI menu. The MIDI Menu will be greyed out until MIDI tracks become active.

Select 'Input Devices' from the MIDI Menu.



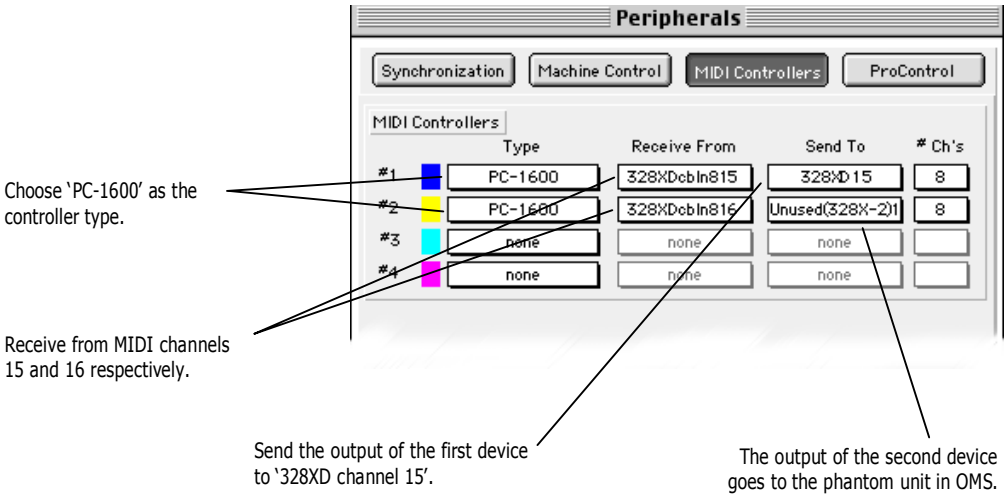
In the Input Devices window, select 328XD as an input device.



Enabling Peripherals

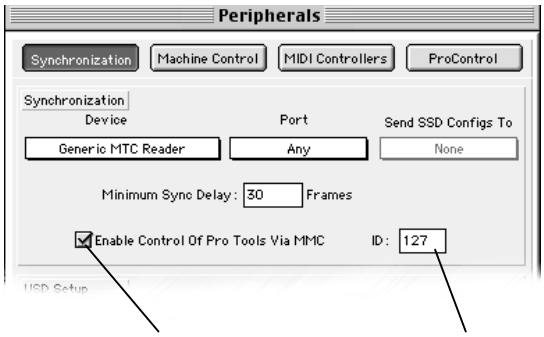
From the Setups menu, select Peripherals

In the Peripherals window, select MIDI Controllers.



MIDI Machine Control

In the Peripherals window, select "Synchronization."



Pro Tools will respond to PLAY, STOP and RECORD commands without fault. However, REWIND and FAST FORWARD commands are not received well via MMC, because of the nature of these commands. Pro Tools responds to "held" commands, such as a REW or FF button that transmits until released. At this time MMC does not support a shuttle "hold" function.

Make sure you are transmitting MMC commands from the 328XD and proceed to the next section.

NOTE: If you plan to enable control of Bank-Shifting, Plugin parameters, or Aux controls, please refer to page 10 for important information regarding Transport Control.

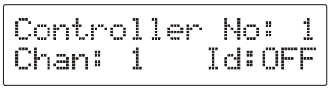
Record Arm commands sent from the 328XD are not recognized in OMS 2.38 and earlier. OMS will not pass these signals to Pro Tools.

328XD CONFIGURATION

This section covers Continuous Controlller settings for the 328XD. Enter these Continuous Controller ID's into the 328XD to emulate the Peavey PC-1600.

Entering Controller Settings into the 328XD

Press MENU on the 328XD – scroll to the MIDI Controllers menu with the PARAM encoder, then press ENTER.



Configure the Continuous Controllers as follows:

Physical Controller #	MIDI Channel	328XD ID
1	15	1
2	15	2
3	15	3
4	15	4
5	15	5
6	15	6
7	15	7
8	15	8
9	16	1
10	16	2
11	16	3
12	16	4
13	16	5
14	16	6
15	16	7
16	16	8

Physical Controller #	MIDI Channel	328XD ID
17	15	9
18	15	10
19	15	11
20	15	12
21	15	13
22	15	14
23	15	15
24	15	16
25	16	9
26	16	10
27	16	11
28	16	12
29	16	13
30	16	14
31	16	15
32	16	16

When the settings are entered correctly, press ENTER – the 328XD will prompt you to store the settings as a MIDI Controller Preset.

Select an empty location, and press ENTER again to store the new preset. The standard naming dialogue will appear. Name the preset 'Pro Tools' or similar using the PARAM encoder. Press ENTER to confirm.

328XD MIDI Controller Bank

To access the MIDI Controller Bank, press the currently illuminated BANK SELECT switch. The faders should react accordingly, yet no BANK SELECT switch will be illuminated. Feel free to switch in and out of this bank as often as you wish. Whenever you return, Pro Tools control will be at your fingertips.

Using the 328XD for extended Pro Tools control

NOTE: Only TDM systems can take advantage of Plugin and Aux send control

Enter the 328XD Tape Machine Setup menu, select Custom Machine and configure the console as follows:

Timecode src:	MTC	FF:	C# -1
Status:	Slave	Locate 1:	PTL+
MIDI:	Note On	Locate 2:	PTL -
Play:	E -2	Shift Key:	OFF
Stop:	Eb -2	MIDI Channel:	15
Record:	F -2	Frame Rate:	30
Rewind:	C -1		

With these settings, pressing LOC 1 moves forward between Fader & Pan control, Plugin control, Fader and Aux 1 send, Fader and Aux 2 send, Fader and Aux 3 send, Fader and Aux 4 send, Fader and Aux 5 send, and back again. LOC 2 moves backward between these settings.

Rewind and Fast Forward buttons become 'bank shift' controls. Pressing Fast Forward on the 328XD moves channel banks to the right 16 at a time. Rewind moves them to the left 16 at a time.

NOTE: Play, Record and Stop Commands only work while Plugin control is activated. Using the MMC panel on the 328XD in 'Note On' mode disables MMC transmission from the 328, but the Timecode display remains active.

Transmitting MIDI Timecode to the 328XD

Under the Session Setup window in Pro Tools, check 'MTC To Port' and select the 328XD as the device. MIDI Timecode will now be routed to the 328XD.

Checking your efforts for Pro Tools control

- Launch Pro Tools
- Create a new file
- Create at least 24 Audio tracks.
- View the Mixer Page in Pro Tools.
- Enter the MIDI Controller Bank on the 328XD. Move faders and rotary encoders to check for Fader and Pan control via the 328XD.
- Keep in mind that a controller must move through the "null" point of a fader before it takes control – this keeps faders from jumping when displayed values differ from actual controller settings.
- Press LOC 1 once (in a TDM system only) to gain control of assigned Plug-In parameters. The displayed Plug-in will be the "active" Plug-In, ready for control. Display other Plug-Ins to make them respond to 328XD control.
- Subsequent LOC 1 presses toggle through AUX Sends 1, 2, 3, 4, and 5 in that order. LOC 2 moves backward through the Auxes, to Plug-In control, and back to Fader & Pan operation.
- Pressing the Rewind and Fast Forward transport buttons 'shift' fader banks 16 at-a-time to the right or left respectively.

328XD AUTOMATION

The 328XD mixing console offers full dynamic automation via MIDI. This means that any encoder/fader movement, button press, or any other control surface setting can be recorded in real-time via MIDI to Pro Tools for playback at a later time.

The 328XD not only allows every control surface parameter to be automated, but also allows full automation of both Dynamic Processors and both FX Processors.

This means that a fully automated mix can be integrated into a recording session, containing any fade-ins, mutes, or snapshot recalls that occur at certain points during a song.

As automation data is recorded, any event may be isolated and edited from within the sequencer track, or new automation events can be created from within the sequencer itself.

328XD Automation

The 328XD also offers Snapshot automation: any Snapshot (or User Setup) can be recalled within an automation track. MIDI Program Change messages are used for this function.

The following table indicates the Program Change required to recall each individual Snapshot and User Setup.

Program Change	Recalled
00 (00H)	Snapshot 001
01 (01H)	Snapshot 002
...	...
98 (62H)	Snapshot 099
99 (63H)	Sanpshot 100
100 (64H)	User Setup 01
101 (65H)	User Setup 02
...	...
124 (7CH)	User Setup 25
125 (7DH)	User Setup 26

So, to recall Snapshot #1, Program Change 0 should be sent to the 328XD. To recall Snapshot #69, Program Change 68 should be sent to the 328XD, and so on.

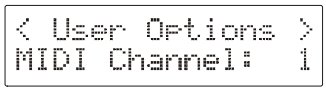
However, there is one other thing to bear in mind. Every individual Snapshot has a MIDI Recall selection that can be enabled/disabled. If MIDI Recall is turned OFF for a particular Snapshot, then it cannot be recalled via a Program Change command. Therefore, any Snapshot you wish to recall from within an automation track must have MIDI Recall turned ON, else the Snapshot will not recall. When the Global MIDI Recall of Snapshots is switched to ON, any Snapshot subsequently created will automatically have MIDI Recall switched to ON. To do this, enter the Snapshot Setup menu and toggle MIDI Recall to ON.

328XD AUTOMATION CONFIGURATION

Automation Settings on the 328XD

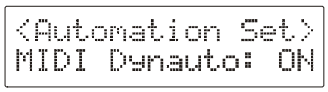
First, set the MIDI Channel for Snapshot recall. Press MENU on the 328, then scroll to User Options and press ENTER. Configure the MIDI Channel for the 328XD.

NOTE: If Omni Mode is enabled then the 328XD will respond to Program Change messages on all MIDI Channels.



Next, to make use of automation facilities on the 328, MIDI DYNAUTO must be enabled in the AUTOMATION SETUP menu.

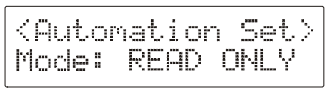
Press MENU, then scroll to AUTOMATION SETUP and press ENTER. MIDI DYNAUTO must be enabled for the 328XD to transmit or respond to any automation data.



Press the Down cursor to configure the automation mode. Four automation modes are available on the 328XD: Read Only, Write Only, Read/Write, and Update. Each mode determines how the 328XD will transmit/respond to automation data, and each has its own applications.

328XD Automation Modes

READ ONLY



When the 328XD is in Read Only mode, it only responds to automation data and will not transmit any automation data. This mode may be useful when a final automation performance has been completed and no more automation data is to be recorded. In this case the desk could be set to Read Only as a 'safe' mode, to ensure that no further automation data is recorded over the final automation performance.

WRITE ONLY

When the 328XD is in Write Only mode, it only transmits automation data, and ignores any incoming automation data received at its MIDI In port. This mode is useful for quickly recording several versions of an automation take where each previous pass is ignored by the 328XD. Each take can then later be previewed (in Read mode), and the preferred take kept as a performance.

READ/WRITE

Read/Write mode is simply an amalgamation of Read Only mode and Write Only mode. In this mode, the 328XD transmits automation data and responds to any automation data received at its MIDI In port. Read/Write is the most commonly used automation mode – a single automation take can be recorded and then instantly previewed on playback.

UPDATE

This mode allows live changes to be made to any individual automation parameter within a previously recorded automation take. For example, say a complex automated mix has been recorded containing many automation parameters. This might be the perfect mix if it weren't for an inaccurate FX-2 fade-out just before the end of the track! Update mode could be used here to 'punch-in' a new FX-2 fade-out at the desired point while preserving all other automation data.

Essentially, Update mode is identical to Read mode, only that the automation data received by the 328XD is retransmitted back to the sequencer. However, the moment a parameter change is made on the 328XD, only that parameter enters Write mode, while all other parameters continue to be passed through the 328XD.

This may seem a bit complex in theory, but in practice it is a very simple concept – Update mode essentially lets you punch-in parameter specific edits into an existing automation mix.

NOTE: If you wish to update an automated fader movement, you should not attempt to take over a moving fader when you wish to punch in your change – use the rotary encoder equivalent on the E-Strip. This is simply due to the motorized nature of the 328XD's faders.

NOTE: Once an automatable 328XD object has been adjusted in Update mode, it will not enter Read mode again until READ ONLY or READ/WRITE is selected in the 328XD Automation Setup menu. This means that the newly adjusted parameter will continue to be overwritten until the mode is changed.

CONTROLLER

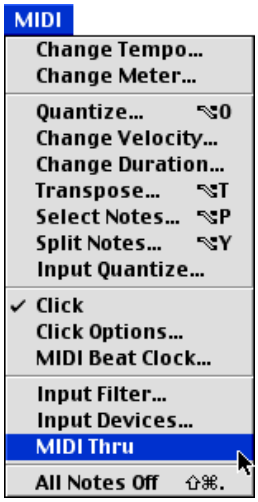
The final automation mode is Controller mode. This mode enables automation of the faders and encoders of the MIDI Controller Bank in order to display received controller data. This mode is not compatible with Pro Tools.

AUTOMATING THE 328XD WITH PRO TOOLS

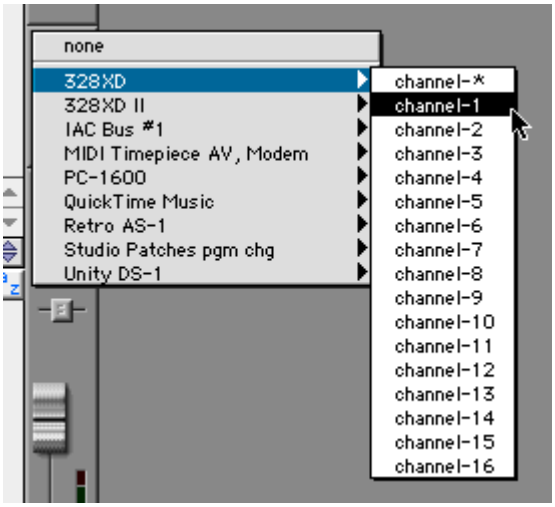
Pro Tools MIDI Settings

In Pro Tools, add one new MIDI Track.

Under the MIDI Menu in Pro Tools 5.0, disable MIDI Thru. Leaving this item checked while operating the 328XD automation will result in a MIDI feedback loop.



In the Mix window in Pro Tools, locate the new MIDI track and route its output to the 328XD, channel 1 (the 'real' 328XD – not the 'phantom' device).



Make Sure MIDI Dynauto is enabled on the 328XD. Set the automation mode to READ/WRITE.

In Pro Tools, arm the new MIDI track to record, and verify MIDI data reception.

Once MIDI data has been verified, you are free to record a pass of automation. Grab a handful of faders, and do a test pass while in BANK SELECT 1-16.

After the test-pass has been recorded, rewind Pro Tools and play the pass back to the 328XD.

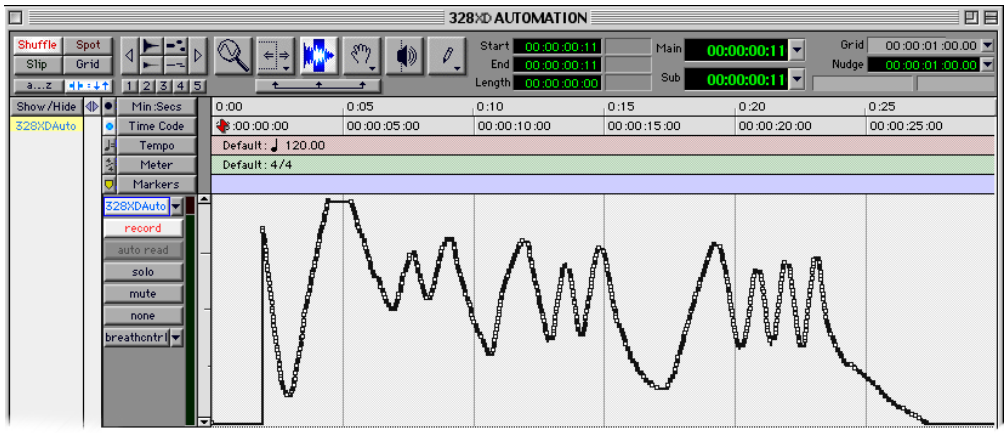
Faders should move accordingly – if they do not, verify your settings and try again. If MIDI data is registering on the Pro Tools level meter when faders are being recorded, check the MIDI cable returning to the 328XD.

Editing the Automation Pass

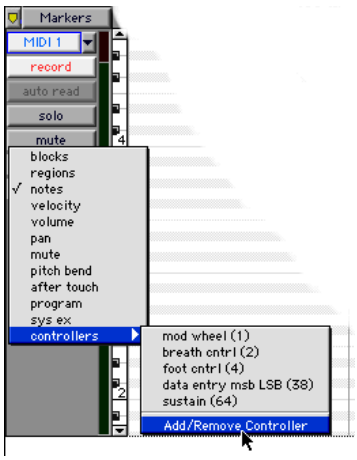
Once your pass has been recorded, you may want to edit it within Pro Tools. If you have Pro Tools 5.0 or later, editing takes place as follows. If you have Pro Tools 4.3 or earlier, please continue to read this section, as the proceedure is similar for your version.

Go to the Edit window in Pro Tools, and locate the MIDI track containing the automation pass.

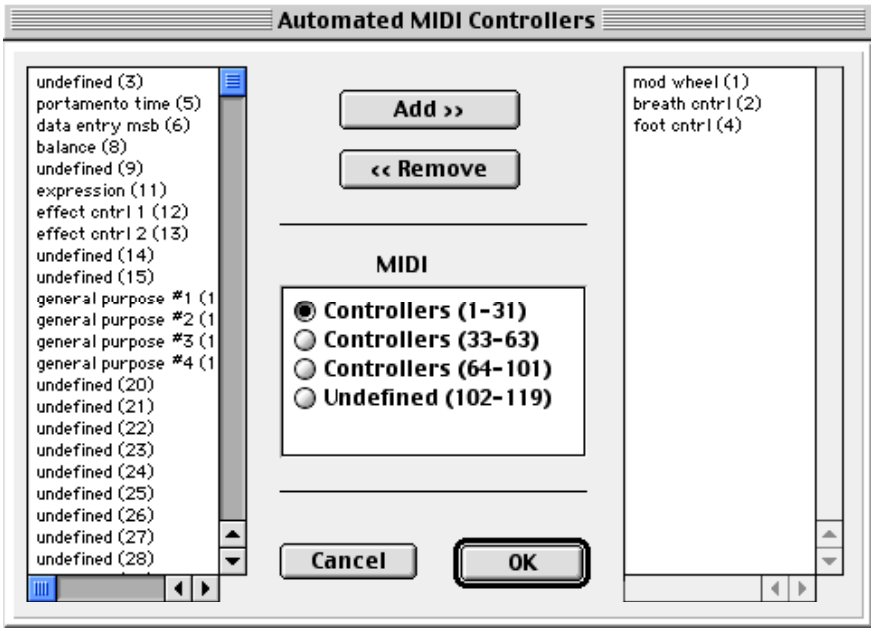
Select the way the data is to be displayed - pure Controller Changes is recommended.



In the Display type window, click 'Add/Remove Controller'. This does not affect Pro Tools performance, it simply instructs Pro Tools how to display the data.



Choose the Controllers that are to be displayed. You may want to come back to this window often to "filter" conflicting data. It is always easier to edit one parameter at a time. Refer to the MIDI Specification included in the 328XD User Guide.



Refer to **328XD Automation Configuration** for detailed explanations of automation modes and uses.

DIGIDESIGN AUDIO INTERFACES

Pro Tools systems always require a related audio interface, whether the Audiomedia II, Digi 001, ADAT Bridge or the 888^{24}. Since the 328XD can (and should) integrate with Pro Tools on the audio side, this section outlines a few possibilities for the ultimate in flexibility.

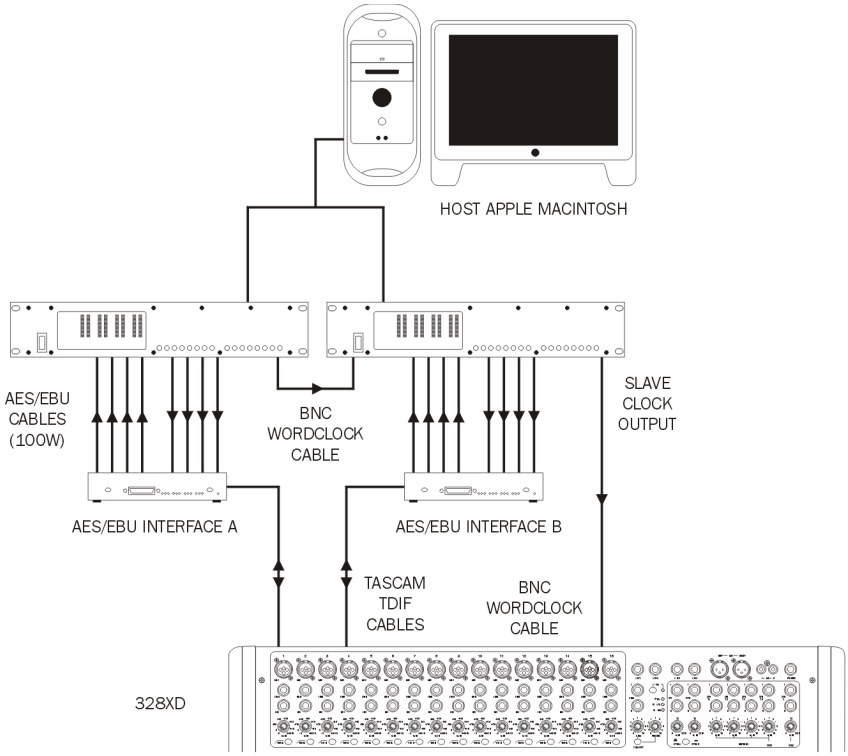
Using two or more Digidesign 888^{24} Interfaces

Digidesign's 888^{24} is the flagship interface for Pro Tools. It offers 8 channels of analogue and 24-bit digital AES/EBU I/O. This is the ultimate interface for marriage to the 328XD.

To fully utilize the power of these two systems, you can use two Soundcraft AES/EBU Interface boxes for the 328XD. These boxes provide up to 16 AES/EBU I/O for the 328XD using standard TDIF cables for connection. Connect to the 888^{24} using AES/EBU cables for up to 16x16 direct I/O with Pro Tools.

This equpment, when connected, provides 16 Ultra high-quality Microphone pre-amplifiers, 32+ tracks of recording, a control surface for all channels in Pro Tools, a 32 channel hardware mixing surface, and routing capabilities. For example, an analogue signal can be brought in via a 328XD mic input, routed to tracks inside Pro Tools – post EQ, then routed back out of Pro Tools to a completely different output on the 888^{24}, all while being simultaneously routed through the Lexicon processors in the 328XD. At the same time the signal can be compressed by the 328XD onboard compression! This is not to mention the signal output of the 888^{24} – happening 16 times!

Setup is as below:–



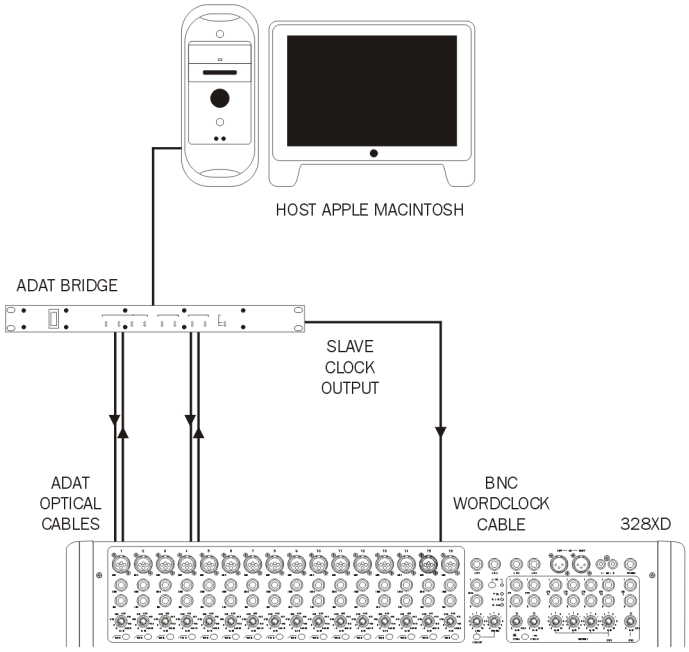
Connect BNC wordclock, TDIF, and AES/EBU Cables as shown. Set the 328XD Clock Source Sel menu to External: SClock (Digidesign Superclock).

Using a Digidesign ADAT Bridge

Connect the ADAT Bridge to the 328XD using 4 ADAT optical cables for 2-way I/O.

With this configuration, you get 16 channels of XLR Balanced input with added 24-bit Mic Preamps, 32+ tracks of recording, Lexicon effects, and all of the routing capabilities explained above, with the exception of the additional output from the 888^{24} itself.

Connect the system as follows –



Connect BNC wordclock and ADAT Optical cables as shown. Set the 328XD Clock Source Select menu to External: SClock (Digidesign Superclock).

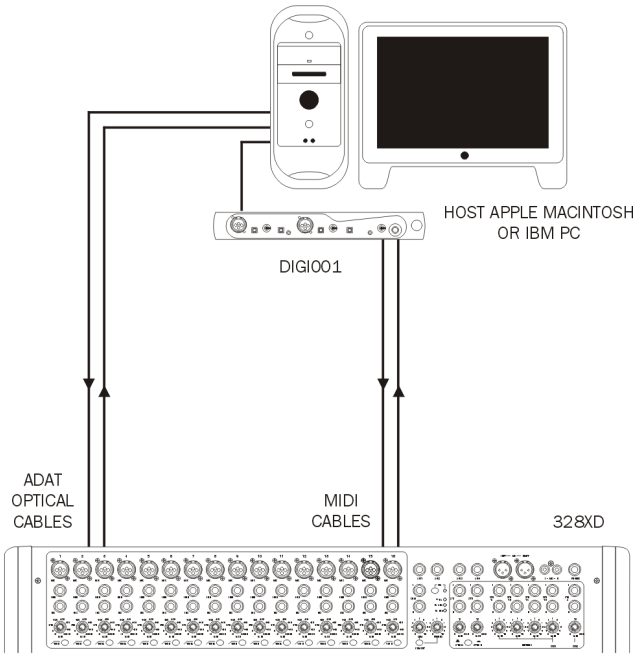
Using a Digidesign DIGI001

The Digi001 interface offers 8 channels of ADAT I/O.

Connect ADAT Optical cables to the 328XD and set the 328XD Tape Ports to "ADAT" under the Tape Port Select menu. Connect MIDI cables as shown.

In the Digi001 Control Panel, set the clock source to External ADAT.

Use the 328XD in this scenario as the centerpiece of your studio – mix synthesizers, live musicians, vocals, and Pro Tools tracks all from the same surface. Automate the 328XD from Pro Tools or control Pro Tools from the 328XD.



EXAMPLE SETUP

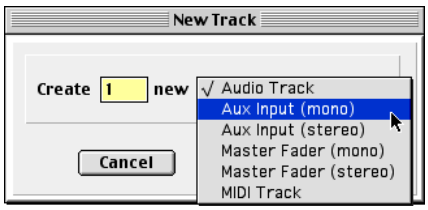
328XD Setup

Recommended setup involves the Auxiliary Optical Output port on the 328XD. Enter the Tape Port Select menu. Using your Down cursor, scroll to AUX OPTICAL. Set the Aux Optical port to AUX/MIX as indicated. This will send signal in the following format: Mix L, Mix R, Aux 1-4, FX-1, and FX-2 dry sends on channels 1-8 respectively.

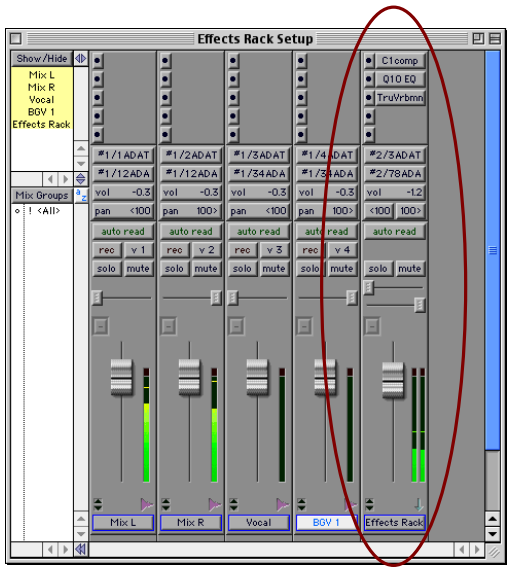
Next, physically remove the optical out of one ADAT port on the 328XD (for example 25-32), and connect this cable to the Auxiliary Optical Output port on the 328XD.

Effects 'Rack' Setup within Pro Tools

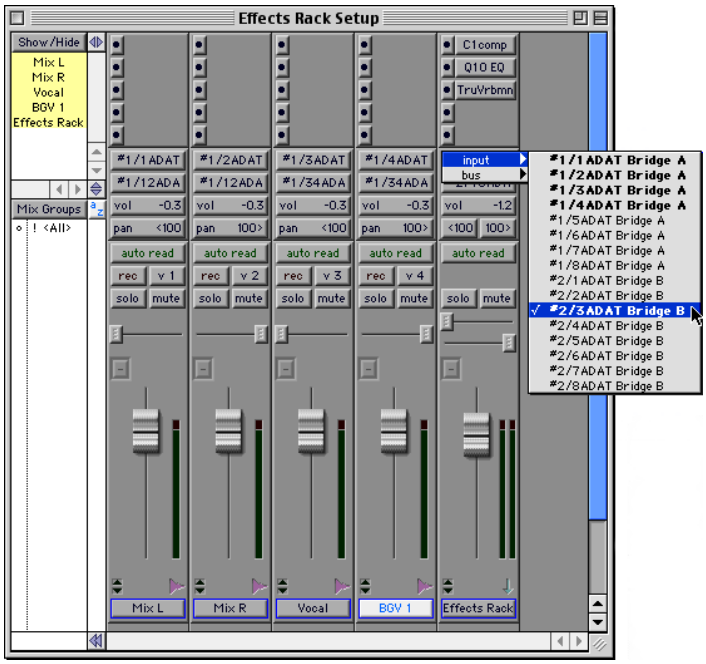
In Pro Tools, launch a session and add 1 monophonic Auxilliary Input.



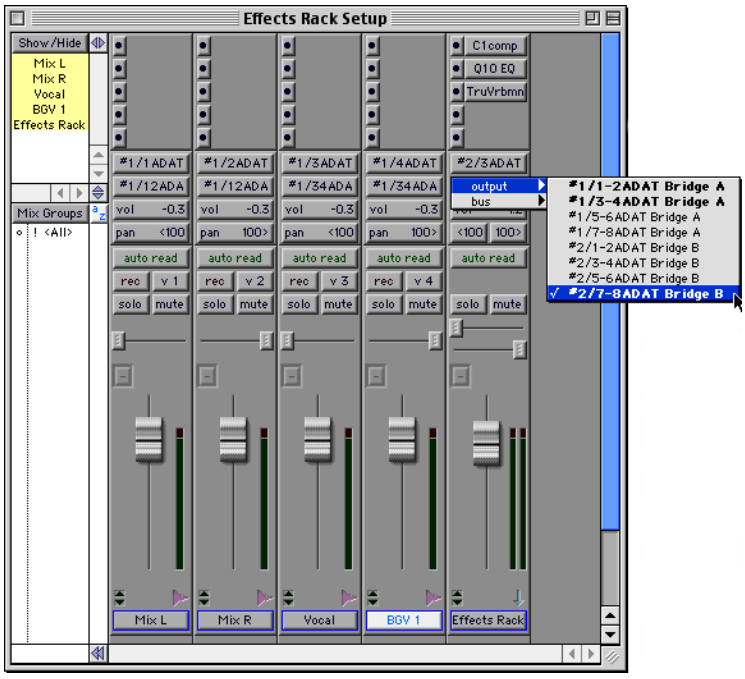
Display this new Aux track in the Mixing Window in Pro Tools, and add TDM plug-ins as desired.*



In the Mix window in Pro Tools configure inputs and outputs. For this example setup, choose Inputs as ADAT#2, Input 3 (Aux 1 send on the 328XD).



Repeat this procedure for the Outputs, sending the output back into channels 31 & 32 on the 328XD (ADAT#2, output 7 & 8).



Up to 6 of these Aux sends can be configured, and the outputs returned to any channel.

To utilize this system, simply select an active channel and route it to the Aux 1 output. The signal willand arrive in Pro Tools at the Auxiliary channel created in Step 1 above. Signal level should be indicated in Pro Tools, and the effected signal will appear back at the 328XD, on channels 31 & 32.

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